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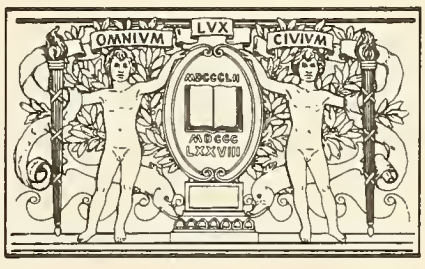

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March 27, 1940

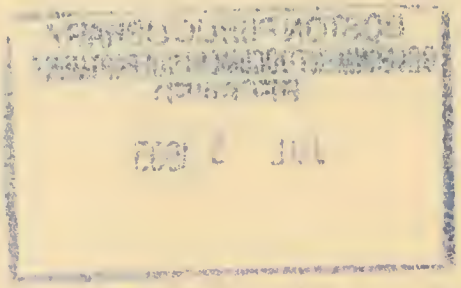
To the Honorable the Mayor and City Council

Gentlemen:

The Finance Commission has devoted considerable time in the past month to assembling the facts relating to the work performed by the City's agencies in the grave situation brought about by the St. Valentine's Day snowstorm. The inconvenience suffered for days following that storm by people all over the City in their efforts to carry on their ordinary business was greater than that caused by the hurricane of 1938. Before this storm few would have believed that any snowstorm likely to visit Boston could so paralyze business. The cost of plowing and removing the snow which fell in that storm and in the one which immediately followed it set a new high record. The magnitude of that cost has shocked the community.

The stories circulated, however unjustifiable, of inefficiency and mismanagement in the execution of the work have spread afar and have injured the reputation of the City and of the city officials entrusted with responsibility in administration of public service.

In this situation the Finance Commission concluded that an unprejudiced review, first, of the conditions which confronted the City during the storm and as a result of the storm; secondly, of the preparation of the City for keeping the streets open to traffic under the circumstances existing; and thirdly, of the manner in which the City coped with the conditions, was necessary and would be of



general public interest. Naturally, the motive of the Commission was to find out whether or not there was anything in the experience of the City in this situation which would suggest improvement in the methods employed to meet the next emergency of its kind.

In order properly to appraise the City's work, it is necessary to understand the weather conditions attendant upon the progress of the storm over the City exactly as they developed from hour to hour. Most people who were in or near Boston while it raged have impressions, more or less distinct, of what the actual conditions were. It is conceivable, however, that many of these impressions might be at variance. Yet all will agree that the conditions were so severe that most people sought shelter as speedily as possible. Only those whose duty it was to do so stopped to make careful note of the important features of the storm, or to give any attention to the measures necessary to prevent long paralysis of business caused by the volume of snow on the streets.

1. Description of the Storm

The Commission has obtained from the local office of the United States Weather Bureau the official record of the weather for the period within which the storm was developing and was passing over this section. This record shows a light snowfall in the early hours of February 10, but rain and higher temperature in the later hours of that day removed all trace of it. On February 12 and 13 there was no snowfall. Consequently when the big storm started, the ground in Boston was bare.

On the night of February 13 at 10:30 P.M. the United States Weather Bureau gave notice of "storm warnings from Boston to the Delaware Breakwater." At that time the disturbance which later became our snowstorm was centered over northeastern Tennessee, moving rapidly east by northeast. The official report stated that the winds would reach gale force during the night of the 13th or the morning of the 14th, but on the afternoon of the 14th would be back to north and northwest. This would naturally lead to the assumption that the storm would be over by nightfall of the 14th.

The next official bulletin from the Weather Bureau relating to this storm came on the morning of the 14th at 8 A.M. It read:

> "New England storm warnings, 8 A.M., north of Boston to Eastport, Maine. A storm of marked intensity centered over western Virginia at 4:30 A.M. and moving east or northeast will be attended by strong shifting winds reaching gale force to-day."

It will be noticed that in neither of these storm warnings was there mention of snowfall.

In the early morning of the 14th the 5-mile-an-hour wind blowing at 1 A.M. gradually increased to 13 miles an hour at 6 A.M. Thereafter velocity became hourly greater. The gale promised by the Weather Bureau at 10:30 P.M. on the 13th had arrived over Boston by noon of the 14th.

There were traces of precipitation between 1 A.M. and 8 A.M. of the 14th. These traces then disappeared and it was not until after 1 P.M. that new traces began to appear. Meanwhile the wind had increased in velocity to approximately 40 miles an hour. After 3 P.M. the wind continued to increase. The temperature dropped

several degrees below the freezing point. What had been a mixture of light rain, hail and snow between 1 P.M. and 3 P.M. which froze as it fell and gave the ground a coating of ice making automobile driving difficult and hazardous turned to wet snow at mid-afternoon and was driven by the force of a 40 to 55-mile-an-hour gale into snowbanks and drifts.

The force of the wind cleared the snow from the roofs and deposited it on sidewalks and streets, thus adding to the volume to be cleared. It drove the snow under the hoods of automobiles parked on the streets, ruining ignition systems and forcing temporary abandonment of a surprisingly large number of cars all over the City. Meanwhile snow piled up around the stalled cars, immobilizing them wherever they happened to be, from Wednesday afternoon until Thursday night and Friday morning. The large number of stalled cars and the spots in which they were located made effective plowing impossible and made even the carting of shoveled snow to dumps a very slow process. Trucks and plows brought into the City to help clear out the snow became obstacles in the path of other plows and trucks summoned to aid in the work.

Examining the official record closely, it appears that the precipitation between 1 P.M. and 3 P.M. of the 14th was too light to measure. Between 3 and 4 o'clock the volume of this precipitation increased very substantially. Yet even at that time, according to a forecast by the Weather Bureau to the city officials, the prospect was of only four or five inches of snow.

However, the volume of falling snow continued to increase from 3 P.M. to 11 P.M. of the 14th. The wind continued to blow at practically gale force until well after daylight of the 15th, but at

midnight the rate of snowfall began to decrease and precipitation ceased entirely at about 7 A.M.

As indicating the speed at which the snow fell, and that it came mostly after nightfall on the 14th, the official record shows that at 7:30 P.M. on that day there were only three inches of snow on the ground. Yet between midnight of the 13th and midnight of the 14th the total fall of snow was 10.6 inches. This means that in the four-and-one-half hours between 7:30 P.M. and midnight of the 14th more than seven inches of snow fell.

The three inches of snow already covering the ground at 7:30 P.M. augmented by the snow from the roofs was driven by the tremendous wind around and about obstacles in the streets which offered any resistance. As a result the drifts were far deeper than three inches. In fact, the force of the gale was constantly shifting the snow from one place to another. It would no sooner be cleared from a particular spot either by the City's efforts or the vagaries of the wind when the same spot would be filled up again.

The description of the conditions recorded by the Weather Bureau officially gives a fairly adequate picture of the situation generally in the City. That description, as taken from the weather record of the 14th, follows:

> "The light flurries which occurred before 3 P.M. caused no unusual conditions. After that time there was rapid accumulation of snow, which with the aid of high winds of gale force, drifted badly and caused increasingly hazardous travel for both pedestrians and motorists. Shortly after 5 P.M. the snow had accumulated to such depth that many cars could make no headway because of bad traffic tangles. Thousands of motorists were forced to abandon cars where stopped by drifts. In various sections of the City street cars were derailed. After 10 P.M. suburban trains were

discontinued. Surface cars had been stopped and bus lines could not proceed. A group of thousands of stranded travelers, many of whom had attended the ice show at the Boston Garden, were forced to spend the night at North Station. The high winds which exceeded 50 miles per hour during the early evening caused blinding conditions and extreme discomfort to those outside."

How the Work was Planned

Snow removal service as undertaken in recent years is divided into two types of work, the plowing of streets and the actual removal of snow by city force and by contractors.

(a.) Plowing

In preparation for the work of plowing, it has been customary for the City in the late fall of each year to make up a list of contractors to whom city-owned plow blades are furnished for attachment to trucks. Plowing routes are established and each contractor who has been furnished a city plow is assigned a particular route. Contractors thus equipped and organized begin their work on telephoned notice relayed from the Public Works Department.

The plowing contractors, therefore, are told when to begin and when to stop, and exactly what routes to follow while at work. As a rule, because of the necessity of keeping the cost of such work as low as possible, the City makes a practice of not calling out the contractors until it is manifest that a substantial snowfall is in prospect. Sometimes this policy, as in the St. Valentine's Day storm, makes the task more difficult than if the plowing started with the storm.

Last fall the plows issued to contractors numbered approximately 180. The routes designated included a majority of the residential streets of the City and all the shopping areas.

Plowing is paid for in accordance with a schedule of hourly rates promulgated by the Public Works Department.

(b.) Removal

In planning for the removal of snow for the winter of 1939-40 the City outlined eight districts. Beginning on the northern side of the City in Charlestown, these districts included all the downtown area, thence southerly to Roxbury, and westerly to Massachusetts avenue by way of Beacon and Boylston streets. Proposals for snow removal in each district based on carefully prepared specifications were solicited by public advertisement. The contracts were awarded by districts substantially to the lowest bidder after public competition.

It is a requirement of the agreement made in these contracts that the contractors must provide their own dumps. However, the City reserves the right to designate other dumps; and the agreement also stipulates that the City will designate the areas to be cleaned in each district and the order of their cleaning.

Payment is made on a basis of cubic yardage delivered at a dump and each truck is carefully measured and its capacity in cubic yards of snow when loaded computed.

For each load removed the contractor is given a numbered disk at the loading point. This is exchanged at the dump for a ticket which is stamped with the number of the load. The City's duplicate of the ticket is the City's basic record of snow removed.

The present system of accounting for loads seems adequate to protect the City's interests, if the instructions given to the large number of employees who operate the system are faithfully followed.

Because of the insistence of the business people for a cleaned Washington street and a cleaned Tremont street for downtown shopping and other business, the City gives special storm service along these highways. Almost immediately after the snow begins to fall in any storm, city men are at work there. When they have completed their work, usually Washington and Tremont streets and most of the connecting streets are as bare of snow as in midsummer.

How the Work was Performed

When it became manifest at about 4:00 P.M. on February 14 that the snowfall would require more than the minimum effort of removal, instructions were given to the contractors to start plowing at 7:00 P.M. Because the best information available at 4:00 P.M. was that there would be only four or five inches of snow, these instructions cannot in the light of subsequent events be criticized as being inadequate.

Soon after that order was issued, the conditions caused by the driving wind became much worse than was anticipated. Drifts had already formed by 6:00 P.M. and automobiles and trolleys became stalled all over the City. When the contractors tried to comply with the order to begin plowing at 7:00 P.M. many were unable to reach their designated routes, and those who could soon became stalled either in or behind drifts, or because cars abandoned along the highways made passage impossible. Snowbanks and drifts were

impenetrable to any but bulldozers (caterpillar tractors with plow blades attached) of which the City owns few, and was unable to obtain more in sufficient quantity for several days.

As a result, during the night of the 14th while the storm raged and all through the 15th and 16th plowing was practically at a standstill.

When the difficulties confronting speedy clearance were properly appreciated by the public works officials they began to hunt for snow removal equipment of all kinds. Some large plows were borrowed from the Boston Elevated Railway Company. The State sent in a few bulldozers when equipment could be spared from the task of clearing state highways. Contractors all over the State were urged to send trucks, plows and snow-loaders into Boston. However, contractors' equipment was in great demand elsewhere as well as in Boston, and because of this and difficulties in transit, days elapsed before the City could obtain results on a very large scale.

Meanwhile in the business centers the City resorted to hand removal of snow. The quotas of 30 to 40 men usually hired by each district foreman and the 300 normally furnished for work in the downtown area were early deemed to be inadequate. The Public Works Commissioner went on the radio and invited all able-bodied men with shovels to report to the nearest city yard. As a result, an avalanche of men, almost as hard to handle as the snow itself, descended suddenly upon City Hall and the various city yards where foremen and inspectors were trying to get the removal of snow underway.

The employment of this extra help and equipment was attended by the greatest confusion. In many instances, the hiring was taken out of the hands of the city officials ordinarily delegated to that task. Members of the City Council, members of the Legislature and others influential in political organizations greatly impeded the work of the regular city executives. They frequently tried to designate the men to be hired for shoveling, the equipment to be hired for removal, and the inspectors and supervisors to be hired for direction of the work.

It is difficult adequately to describe the excitement at the various places where the hiring was done. The first in line were jammed against whatever stood between the hiring officials and the crowds clamoring for jobs; many were trampled upon; much damage was done to city property. At one city yard a ladder was raised against a building and entrance gained through broken windows by men who came late, and who were fearful that all the jobs would be given out before their turn came. An expensive ventilator was partly ripped off the roof of one building in order to force an entrance; men leaped through skylights, windows and doors were forced and often broken to kindling wood; in some instances, paving blocks were hurled through windows, while clerks within were trying to register men.

Approximately 5,000 men were already hired by noon of the 15th when the Public Works Commissioner went on the air to call for more. Almost 10,000 more responded. One-half the men reported with shovels, the other half without shovels, and the City had to buy shovels by the thousands to equip them. Once in possession of buttons identifying

them as city workers, many of the hired men tried to sell the shovels which were supplied to them to people on the street, to store-keepers, and to householders. Many city officials have complained that politicians seeking special consideration for their friends and constituents delayed and handicapped them seriously in their efforts to organize a force and to direct the work of removal.

As men were hired, they were instructed to report to particular locations for shoveling. Many of them reported where instructed to and then disappeared. In some instances miniature race riots occurred when persons of one nationality started to work in a section in which persons of another nationality predominated. Because all the regular city employees whose ordinary work qualifies them for supervision of snow removal work were rushed into the contract districts to supervise and check the contractors, there were none left to take charge of the gangs hired by the City. It was necessary to take individuals out of each of these gangs and impose on them the duty of directing the work of removal, and of supervising and checking snow shovelers and hired trucks. Many of these emergency supervisors lacked experience and, therefore, were unable to supply intelligent direction.

Because of the scarcity of equipment available in the first 48 hours after the storm, hundreds of men already under pay at 62-1/2 cents per hour were idle while waiting for trucks into which they might shovel snow. Many loafed on their shovels even when equipment was available. There were so many men hired and so little organized direction of them, and the gangs, in many places, were so large, that

shovelers were constantly in each other's way. In one instance the Commissioner of Public Works found 300 men accomplishing so little that he ordered them immediately discharged. On another occasion approximately 100 were discharged for the same reason by another city official. The City received little or no services for many thousands of dollars paid out in wages when, or because, the few trucks available for carting the shoveled snow away became stalled in transit, or, as happened in many places, were unable to move from the spot in which they were loaded.

There was confusion about dumping places. Removal had been in progress for many hours before many of the dumps became accessible to loaded trucks. The drifts and the stalled automobiles and the traffic pouring into the City, despite the condition of the streets, clogged the roads to dumps. At one time on the afternoon of the 15th sixteen trucks loaded with snow were stalled along the approaches to the big dump on Dorchester avenue near the South Station.

An illustration of the incapacity of many of the emergency foremen or supervisors was furnished in an incident in Post Office Square. More than 100 men waited for a truck into which they might shovel snow while a truck loaded with shovels was parked among them. The shovels on the truck were intended for another gang of shoveling recruits. The foreman in charge believed he must wait until the new recruits came to release the truck for snow removal.

The following table showing the daily number of men employed and the ratio of men to trucks furnishes striking evidence of the oversupply of man-power in the early days of the storm.

Date	No. of Trucks Hauling	Total No. of Men	Men Per Truck
Feb. 15	195	9,663	49.5
16	387	10,681	27.5
17	361	11,858	32.8
18	388	10,454	26.9
19	442	5,009	11.3
20	361	4,387	12.1
21	415	4,731	11.4
22	431	4,194	9.7
23	268	1,517	5.6
24	320	2,320	7.2
25	317	2,016	6.3
26	140	907	6.4
27	130	942	7.2
28	129	992	7.6
29	102	964	9.4
March 1	103	1,048	10.1
2	108	1,160	10.7
3	101	552	5.4
4	117	1,070	9.1
5	116	1,112	9.5
6	136	1,128	8.2
7	7	26	3.7
8	7	53	7.5
9	7	53	7.5
10	7	53	7.5
11	7	53	7.5

The proportion of 25 men or over to a truck does not tell the full story. For the first four days following the storm, trucks moved slowly. Of the time consumed in a round trip between 50% and 70% was spent in transit. During this time the shovelers drifted to other trucks in process of being loaded with the result that each truck was surrounded by a swarm of men. Only a small proportion of them could get near enough to shovel snow into the truck, and the others stood idle or vaguely shoveled snow into piles in the hope that it could thereby be loaded on the next truck with a slightly increased efficiency.

In the downtown area, the City spent $186,000 for emergency shovelers and approximately $22,000 for emergency equipment (trucks and snow-loaders). From State street to Essex street is a contractor's district, and the City's emergency shovelers merely supplemented the contractor's work by caring for Washington and Tremont streets and some of the streets between, and places like Post Office Square, Scollay Square and Dewey Square.

The expenditure of $208,000 in the downtown area for emergency men and emergency equipment, which is only approximately half the actual cost when regular service costs are added, stands in bold contrast to a total cost of $289,000 paid to contractors in the eight contract districts.

The cost of removal per yard by the city forces is not obtainable because no record was kept of the yardage of snow removed. Estimates of the cost run all the way from $2 per yd. to as high as $25. There is no doubt that some yardage removed cost even higher. The rate paid to contractors averaged 40 cents per yd.

Contract Removal

There was no such confusion in snow clearance in the districts where the work was performed by contractors. The contractors worked efficiently and the cost per yd. was but a fraction of the cost in those places which the City undertook to clear with its own hastily mobilized force.

Contractors are paid per cubic yard of snow removed. Consequently, they make more profit if their men work speedily. They require fewer men and units of equipment than the City itself. Also, it is to their advantage to remove the snow before it hardens. Generally contractors relied on mechanical snow-loaders, using only enough hand-power to feed the machines. Where a contractor is paid according to the yardage removed, his trucks do not loaf en route to dumps and his men are adequately directed and supervised. The prices for contract removal necessitate capable and efficient handling of the work.

In some instances it was found that loads brought to the dumps by contractors were not all they should be. The tail-boards of the trucks were missing or the trucks were only partly loaded. Complaint of this shortcoming brought speedy remedy. Inspectors refused credit for such loads.

The City's system of counting and measuring loads was adequately manned. It is difficult to defeat the purpose of the system because of the various cross-checking steps contained in it.

In contrast with what was happening in areas where the City's emergency force was at work, it was noticed in contract districts where hand shoveling was the method employed that an average of seven or eight men to a truck sufficed, not the 30 or 40 or 50 used by the City.

The contractors who had obtained the awards in the December competition were seven in number, one contractor being given two districts.

The contractors, the amount of snow they removed, and the amount paid to them for their work are disclosed in the following table:

Dist.	Contractor	Approximate Yardage	Price Per Yd.	Approximate Payment
1	Baker & Company	81,000	$.40	$32,400
2	Frank J. Jacobs Co.	65,000	.44	28,600
3	J. J. Callahan	135,500	.34	46,070
4	John Deveney & Co., Inc.	131,556	.42	55,253
5	Ward Gen. Contracting Co	69,027	.41	28,301
6	Edward M. Matz, Inc.	74,400	.44	32,736
7	Walter Reed Corporation	43,475	.38	16,520
8	J. J. Callahan	16,198	.43	6,965
5*	Coleman Bros. Corp.	59,610	.44	26,228
**	Albert P. Dooley	11,385	.43	4,895
**	Joseph P. McCabe, Inc.	13,306	.43	5,721
1*	C. J. Maney	14,500	.40	5,800
	TOTAL	714,957		$289,489.

*Supplementary to contractor awarded district after competitive bidding.

**Assigned outside contract districts.

Early in the work of removal the city officials decided that the regularly designated contractors would need help. In some instances emergency men and equipment hired by the City were rushed into a district and took over portions of the work. In four other instances, as shown in the foregoing table, other contractors were employed on an emergency basis. In one case the emergency contractor declined to give service for the price fixed in the earlier award of the contract for that district.

He was permitted practically to fix his own price. Later the public works officials discovered that he had selected an area for removal which had not been assigned to him. It was very handy to a snow dump which permitted speedy unloading of snow, and consequently gave opportunity for quick piling up of yardage removed. When the city officials discovered that this contractor had thus taken things into his own hands, his employment was discontinued.

The best estimate obtainable today of the cost of the snow removal service occasioned by the St. Valentine's Day storm and the one which immediately followed it reveals a total expenditure of $1,094,965. The items which make up this total are as follows:-

Emergency men	$ 483,297.
Hauling	150,000.
Plowing	130,000.
Contracts	*281,539.
Overtime	33,299.
Miscellaneous	16,830.
	$1,094,965.

* Does not include the work in one district where the prices are in dispute. The cost in this one district will add approximately $5800 to the total.

It must not be taken for granted that this figure pays for all the work that was performed. The total would be substantially increased if the amount paid out of W.P.A. funds could be obtained, and the amount represented by labor furnished by welfare recipients, and by regular city employees whose time was given to the work but are paid out of regular department appropriations.

CONCLUSION

There are two principal causes for the substantial increase in the cost of snow removal by the City in the past decade. The first is that since the automobile came into general use, the area in which the City undertakes either simply to plow snow, or first to plow, and then to remove the snow, has been gradually extended year by year until now it includes almost every street in the City on which people live or carry on business. The second is that the removal of snow, as distinct from the plowing of snow, is now on such a lavish scale that, allowing for a little exaggeration, it might be described as "polishing" the streets.

In quantity and in quality, therefore, the service is now many times greater than what many became accustomed to "in the good, old days." City officials past and present are not wholly to blame for this expansion of a service which is very expensive, when necessary. If a single street is overlooked in the plowing or if drifted snow impedes easy movement of traffic in any street for 24 hours, city officials will hear of it from irate residents or shopkeepers who want to know why such-and-such a street was plowed or cleared and not their particular street.

Because of demands following almost every great storm of the past - sometimes by individuals of prominence socially or in business, sometimes by neighborhood organizations, and sometimes by public officers or aspirants to public office - expansion of the service has taken place over the years in piecemeal fashion. Apparently, there has never been a serious and scientific study of the question,

"To what extent will the City give service in removal of snow?"

In the "horse-and-buggy" days the City made a practice of using its own street or public works department force for partial clearance of snow from such largely traveled arteries as Washington and Tremont streets between Scollay Square and Adams Square on the north, and Boylston and Essex streets on the south; and in the clearing of crossings, many public squares and the area in front of public buildings. Occasionally also, when the volume of snow on the ground was great enough to warrant it, the regular force would assist in clearing the street in front of churches and other private buildings where large numbers of people congregate and in front of hospitals and fire stations.

When plowing of streets began, it was confined largely to the main arteries. Horse-drawn vehicles were slowed up by snow, but seldom completely stopped. However, since the automobile came into general use, homeowners who feared the danger of fire when streets were inaccessible to motor-driven fire apparatus, and many who found it difficult to drive their automobiles from plowed main arteries to their dwellings on side streets, eventually forced the City to increase the scope of its plowing. The City now undertakes to plow all streets.

Partial removal of snow from the main thoroughfares downtown had its beginning in fairly modern times. Now complete removal is attempted in most shopping areas and on the heavily traveled routes to shopping areas.

The demands of the work eventually outstripped the capacity of the City's regular forces. It became necessary to divide the areas to be cleaned into districts, and to give the work of removal to contractors selected in public competition. The current method of making awards of these contracts is not entirely satisfactory.

Whether or not the competition is entirely free of collusion or manipulation, is a matter of doubt. It is significant that each administration has its group of favored contractors, which usually dominate the awards. Requirements of the bidding, such as that each contractor must file satisfactory statements of financial condition and list of equipment available, are used more effectively to exclude certain unprivileged contractors than as guarantees that others to whom contracts are awarded are capable and reliable.

The defect in public competition for this particular work is that it invites contractors who do not measure up to the standard required to come into the bidding, many of whom often offer prices which experts know will not allow for cost of reliable service and fair profit. City officials hesitate to pass over this type of bidder even when good judgment would dictate it. The fear of the public criticism which might follow counts for more with them than the fear that the contractor cannot give satisfactory service at the price offered.

Nevertheless, removal of snow by contract has not turned out badly. The City does not rely too heavily on the honesty of snow contractors. It would be a mistake if the City did rely wholly on them. A few years ago the Finance Commission exposed practices by

contractors by which the City was being mulcted of many thousands of dollars in every snow removal emergency. A new system of measuring the snow removed has been developed since that exposure. After carefully observing its workings, the Finance Commission agrees with the public works department officials that it is difficult to circumvent the features of the system which are intended to prevent cheating of the City.

The efficacy of the system was tested in the February storm when an unidentified group went about the City offering to sell slugs stolen from a city yard which are used as credits for the loads removed. A Finance Commission representative was informed that none of the contractors would buy them because they all knew that the cross-checking features of the system would detect any fraud.

The work of removal in the contract districts was satisfactorily speedy and efficient, and the cost fair. As shown previously in this report, the work performed by the City's emergency force was inefficient and unjustifiably expensive.

It is doubtful if snow removal by city hired men can ever attain the efficiency of the contract removal method. The officials who have direct responsibility in this work have positive conviction that contract removal is better and cheaper for the City.

A large force of snow shovelers hastily mobilized by the City, many of whom are interested more in the amount of money they can obtain for their time than in the accomplishment of the purpose for which they are hired, requires close supervision and intelligent direction. The City does not carry on its roster of employees enough

trained supervisors to direct all the work which is attempted in snow clearance by men hired by the City.

Snow shovelers hired in an emergency for a few days' or nights' work cannot be controlled by city bosses as well as when employed by contractors. Equipment hired by contractors must be serviceable and must render service commensurate with its cost. In contrast, much of the equipment hired by the City proved inefficient or inadequate when put to the test. Contractors' men were not found hiding in lunch-rooms or taverns on time for which they were being paid. Shirking by men hired by the City was open and flagrant. Shovels and other equipment furnished at the expense of the contractors is carefully checked and accounted for at the end of each day's work. The City lost 1,500 shovels in the first few days of the emergency.

The experience of the City, therefore, in this storm points strongly to the conclusion that snow clearance will cost the City less and be most efficient if the actual removal is left to contractors. So long as contractors are paid for yardage removed, and so long as the present system is administered with its present efficiency, the utmost in removal will be done in the shortest possible time. The task of the City will be simply to supervise the contractors and check their accounts. This the City can do satisfactorily without great extra outlay.

The number of men regularly employed in the Public Works Department who have had adequate experience in snow clearance work is being constantly reduced because of the insistence on a no-hiring policy in instances where positions become vacant by death, pension,

resignation or the like. Contract removal has, therefore, been forced on the City.

Whatever be the method of removal adopted, attention must be given to working out a plan to restrict automobile traffic in storm emergencies. The hindrance to plowing caused by stalled cars, which has been described in the earlier part of this report, could hardly have been prevented in this particular storm. It furnishes, however, a warning as to what is likely to happen in the next blizzard, and to what - if adequate storm warning can be given - can be prevented for the future.

Marooned automobiles, however, did not give the snow removal forces their greatest difficulty. As previously stated, one of the main reasons for the abnormal proportion of idle shovelers observed in the first days after the storm was the delay occasioned in the transit of the trucks to and from dumps. Though in part caused by the failure of the Public Works Department initially to clear the streets in the neighborhood of, and leading to, the dumps, this delay was also due in large part to a steady flow of automobiles and trucks over the single lanes in those approaches and to the fact that cars were freshly parked without regard to the exigencies of the situation and without protest along these approaches. A striking illustration of the difficulty thus caused was furnished on the Friday afternoon following the storm when congestion in that part of the City between Scollay Square and the Charlestown bridge forced complete cessation of snow removal work until after the close of business hours.

RECOMMENDATIONS

The Finance Commission recommends as a first step in the establishment of a comprehensive system of giving required service in snow emergencies, that the public works officials divide the whole City into districts; and, having in mind how much the City can afford to spend on snow removal, that it be determined to what extent service will be rendered in each district.

Basing opinion on the defects observed in the present system of obtaining bids, the Commission recommends that the contractors selected and the prices paid be determined after careful investigation of the physical plant, owned or available, the financial resources and the reputation for efficiency and fair dealing of contractors who would be considered eligible.

Since snow clearance is an emergency, the Commission recommends that full advantage be taken of the entire staff of city employees in developing an organization which will provide complete service as required in any storm. This does not mean that every employee shall hold himself or herself ready for shoveling duty. There are many other types of tasks involved.

Because of the scandalous conditions which will naturally be present in every instance where the City relies on a large force recruited hastily overnight for short time work, the Commission recommends that removal by contract be the basis of plans for the future. In writing contracts, the Commission recommends that the City reserve to itself the right to designate the dumping places. The Commission would point out in this connection that this task

should be performed before the contracts are awarded.

The Commission recommends that, inasmuch as speed is important in snow removal, careful study be made of the possibilities for dumping in each district. The objective should be to designate dumps which can be quickly reached.

The Commission recommends that plans be worked out in detail with the Traffic Commission and the Police Commissioner whereby a set of emergency rules can be evolved and promptly applied upon the heralded approach of any future storm of blizzard proportions. These plans should contemplate the complete elimination of parked cars on main thoroughfares in the hours preceding such a storm so that plowing can be carried out therein, and adequate warning broadcasted to motorists and taxicab and truck companies of the possibility of an immobilizing snowfall. They should also contemplate temporary prohibition of all but the most necessary traffic upon certain streets leading to dumps so that the snow trucks can pass with the minimum of delay between the loading places and the nearest available dumps.

The Commission recommends that the contracts for snow removal in the future contain a price for removal of snow by hand shovelers distinct from the price when mechanical equipment is used. Since the Commission recommends removal by contract to replace all removal by city labor, it is necessary to have in mind that on some occasions when removal is necessary, it cannot be done by mechanical equipment. When the snowfall is light, removal must be by hand shovelers. The low price per yard which the City obtains now is based on the implied requirement of the present contracts that

mechanical equipment will be used. Hand shoveling of snow is usually more expensive. If all removal is contracted for at one price, contractors must obtain a price which will fit all occasions. This price would undoubtedly be greater in some instances than a fair price for the work as performed.

The Commission recommends that it be written into the contracts that the Public Works Commissioner shall decide the method of removal.

APPRECIATION

In the foregoing recital of the conditions which the City faced in the big storm and of the quality of the efforts to meet the situation, the shortcomings of the City's agents may have appeared most conspicuous. Therefore, it is due many regular city employees and emergency men to say that they gave service to the limit of their endurance. In many cases it meant 40 to 50 hours continuous service. In some it meant four to five days of constant toil without adequate rest. The executives of the Public Works Department and the regular employees responded to the emergency as part of their regular duty without extra compensation.

Respectfully submitted

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THE FINANCE COMMISSION.